

APPLICATION

FOR

UNITED STATES LETTERS PATENT

FOR

GIFT BOX CONTAINER

BY

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GIFT BOX CONTAINER

BACKGROUND OF THE INVENTION

Double walled gift boxes are well known. Covers and base boxes are usually formed from relatively flexible paperboard blanks having decorative outer surfaces and flat clean inner surfaces. Side and end walls are folded inward upon themselves to form double walls adhered together by adhesives. Inner portions of the walls are connected by creased gussets, which are folded and tucked into junctions of the end and side walls. Glue strips connect inner and outer portions of the walls. Folded gussets are held in place by the glue strips. Cutting, folding and gluing equipment is widely available for forming the single blank double wall boxes.

Reinforcement of the double walled boxes with heavier sheets is sometimes useful. When large heavier sheets are added to boxes gluing and alignment of the sheets to which adhesive has been applied becomes a problem.

Needs exist for improved boxes and methods of construction, which reduce defects while simplifying equipment and processes.

SUMMARY OF THE INVENTION

The new gift box container has a paperboard rectangular box base with a similar separate cover. A cover or base may have a reinforced insert. A reinforced cover could be used without a reinforced base or a reinforced base could be used with a cover or simple over wrap.

The box base and cover are each formed as trays folded from a sheet of paperboard. Each sheet has inner and outer surfaces, a main panel and four flanking panels, one on each edge of the main panel for forming ends and sides. The main panel of the cover is slightly larger than the

main panel of the base. The flanking panels on the cover are approximately one half the width of the flanking panels on the box portion. In consequence, the walls of the cover are about a short way, half the height of the walls of the base. The walls of the cover on the assembled box extend about halfway or completely down the walls of the base in the assembled and closed configuration.

During or after cutting, the sheets are creased where the four flanking panels join the main panel. The flanking panels are creased at their midlines to form inner and outer halves of side and end panels. The outer halves later are folded inside the inner halves to form double thickness walled trays useful as the cover and box base portions.

Webs or gussets connect the inner halves of the sides and ends. The webs are creased and partially lanced diagonally for folding and tucking into the ends when the sides and ends are folded upward.

A heavier stiffening sheet of paperboard equal in size to the main panel and 1/8" to 1/4" shorter than the width of each of the two flanking side panels is inserted in each tray prior to the inward folding of the flanking panels. This heavier sheet is creased, for example, by perforations, bar scores or 50% cut scores to delineate and form the joint between the sides and the central panel of the stiffening sheet. The stiffening sheets grain may be perpendicular, parallel or at an angle to the grain of the paperboard sheet that forms the walled tray. Parallel adhesive strips are laid on the upper faces of the outer halves of the side and end panels of the box base or cover tray. The stiffening sheet is placed on the inner face of the main panel of the cover or base. The side and end panels of the tray are folded perpendicularly to the inner face of the main panel, which also folds the side panels of the stiffening sheet perpendicular to the inner

face of the central panel. The stiffening sheet may have creased ends similar to its sides to fit into and adhere similarly to end panels of the tray forming sheet.

The outer halves of the end panels are folded inward along the midline creases and are adhered to the inner halves of the end panels. The outer halves of the side panels are folded inward at their midline creases and are adhered to the inner faces of the sides of the heavier stiffening sheet locking it in place. The stiffener sides are held between the inner and outer halves of the side panels. The central panel of the stiffener is held aligned with but not glued to the main panel of the tray.

During the folding operations, the creased gussets are folded along their creases and are tucked inward along ends of inner faces of the inner halves of the end panels. When the outer halves with the pre-applied adhesive strips are folded inward, the adhesive strips contact the folded gussets as well as the inner faces of inner halves of the end panels, fixing the gussets in their tucked positions.

Adhesive holds the inward folded side panels to the inward faces of the inward folded side portions of the heavier sheet. Adhesive is not applied between the central panel of the heavier sheet and the main panel of the tray. In one form, inward folded outer end panels are adhered to folded ends of the stiffener sheet. In an alternative form, adhesive may be applied to between the central panel and the main panel.

These and further and other objects and features of the invention are apparent in the disclosure, which includes the above and ongoing written specification, with the claims and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a plan view of a tray blank for forming box base or cover as cut and creased.

Figure 2 is a plan view of a stiffener for a box base or cover as it is cut and scored.

Figure 3 is a partially assembled cross-section of the box or cover.

Figure 4 is a cross-sectional assembled view of the box base or cover.

Figure 5 is an assembled view of the gift box container.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings, as shown in Figure 5, the new gift box container 1 has a paperboard rectangular base box 3 with a similar separate cover 5.

As shown in Figure 1, the base box and cover are each folded from a sheet of paperboard 10. Each sheet has inner and outer surfaces, a main panel 11 and four flanking panels 13, 15, one on each edge of the main panel 11 for forming ends 19 and sides 17. The flanking panels 13, 15 on the cover 5 are approximately one half the width of the flanking panels on the box base. In consequence, on the assembled box, the cover extends a short way, about halfway or completely down the sides of the box base. The four flanking panels 13, 15 are creased 21 and folded along the main panel 11 and creased 23 and refolded at their midlines 25 to form double thickness walls 27 on trays 29 useful as the cover 5 and box 3 portions.

Webs or gussets 31 are diagonally creased 32 and partially lanced and connect the inner halves 33, 35 of the sides 17 and ends 19. The gussets 31 are folded and tucked along the walls of the ends 19 when the sides 17 and ends 19 are folded upward.

A heavier sheet of paperboard 40 as shown in Figure 2 is equal in size to the main panel

11 plus one half the width of each of the two flanking tray side panels 13. This heavier sheet 40 is 50% cut scored 51 to form a central panel 41 and attached sides 43. The central panel 41 is about the size of the main panel 11 of the tray bottom. Its grain 53 runs perpendicular to the grain 55 of the tray paperboard 10 in a preferred embodiment. Grain 53 may be parallel or at angles. The stiffener sheet 41 is inserted on the tray prior to the perpendicular folding of the flanking panels 13, 15. The side and end panels 13, 15 are folded perpendicular to the main panel 11, which folds the sides 43 of the stiffener 40 and aligns the stiffener central panel 41 precisely between the side and end panels 13, 15 along the main panel 11.

The outer halves 37, 39 of the sides and ends are folded inward over the inner halves 33, 35 of the sides 17 and ends 19 after applying adhesive in parallel strips 61 to the inward-facing surfaces of the outer halves 37, 39.

Following the insertion, the outer halves 37 of the side panels 17 are folded over the sides 43 of the heavier sheet 40, locking it in place. Adhesive 61 holds the inward folded outer halves 37 of side panels 17 to the inward faces 44 of the inward folded side portions 43 of the heavier sheet and the inward folded outer halves 39 of the end panels 19 to the inward faces of the inner end panels 35 and to the gussets 31 tucked between them. Adhesive is not applied between the central panel 41 of the heavier sheet and the main panel 11 of the tray 29.

Alternatively inner faces of the outer side panels 37 may be coated with adhesive and folded over the stiffener sides before the gussets are folded and tucked inward along inner surfaces of the inner end panels 35 while the end panels 19 are folded upward. The outer end panels with applied adhesives are folded over the inner end panels and the gussets.

The entire box may be formed with conventional cutting, adhesive laying, and folding

equipment. The stiffening sheet is cut and scored in a single operation and is placed in a single step. The initial perpendicular folding of the ends and sides insures precise alignment of the stiffener. No special provision is required for the precise aligning of detached parts when they are juxtaposed or are glued in place. No separate requirements for special aligning, placing, and bonding steps are present.

The bending of the sides along scores in the stiffening sheet automatically aligns and precisely positions the central panel of the stiffening sheet with respect to the main panel of the tray sheet as the side and end panels of the tray sheet are bent upward. The stiffening sheet is automatically locked in position by the inward folding and gluing of the outer side panel halves which would otherwise contact the inner surfaces of the inner side panel halves of a double walled box tray.

Savings result from no increases in steps to handle the outer sheet when forming a double walled tray and no requirements to spread adhesive over the large main panel of the tray-forming sheet. Further increased savings result from not requiring precision placement equipment for aligning two large panels after gluing. The invention has the added advantage of reducing rejects from misaligned glued panels. Speed of production may be increased by the elimination of need for precise alignment before adhering large panels. Additional savings result from reduction of adhesive requirements, elimination of added adhesive requirements, and elimination of precision aligning and positioning equipment. The look and feel of the finished box may be enhanced by not requiring adhesive under the main panels.

While the invention has been described with reference to specific embodiments, modifications and variations of the invention may be constructed without departing from the

scope of the invention, which is defined in the following claims.